**Science 1.2** Investigate the implication of electricity and magnetism in everyday life **Internal 4 credits**

1. Aspects of electricity and magnetism could be chosen from, but is not limited to:

Static Electricity:

Positive and negative charge, conductors and insulators, uniform and non-uniform charge distributions, earthing, electrical discharge in air, separation of charge by friction, charging by contact.

DC Electricity:

Voltage, current, resistance, power, series circuits and simple parallel circuits, circuit diagrams, the relationships that are relevant to the content being taught.

Magnetism:

Magnetic field directions (bar magnets, the earth’s magnetic field; magnetic fields due to currents in straight wires and solenoids); the right-hand grip rule; the electromagnet. The relationships that are relevant to the content being taught.

1. In the curriculum, “investigate” has the broad meaning of scientific research i.e. carrying out an “inquiry”. In the science standards the following definition will apply:

Investigation will involve collecting information from a variety of sources such as direct observation, experimental data, resource sheets, photos, videos, websites and reference texts.

**Physics 1.3** Demonstrate understanding of aspects of electricity and magnetism **External 4 credits**

1. *Aspects of electricity and magnetism* will be limited to a selection from the following:

Static Electricity:

Positive and negative charge, conductors and insulators, uniform and non-uniform charge distributions, earthing, electrical discharge in air, separation of charge by friction, charging by contact.

DC Electricity:

Voltage, current, resistance, power, series circuits and simple parallel circuits, circuit diagrams, the relationships   
V = IR, P = IV, P = , RT = R1 + R2 + ….

Magnetism:

Magnetic field directions, interactions and the result of interactions (including magnetic field of bar magnets, the earth’s magnetic field, magnetic fields due to currents in straight wires and solenoids). Right-hand grip rule.

The electromagnet, the relationship .

1. *Demonstrate understanding* requires the student to provide evidence that will typically show an awareness of how simple facets of phenomena, concepts or principles relate to a given situations. This may include using methods for solving problems involving aspects of electricity and magnetism.

*Demonstrate in-depth understanding* requires the student to provide evidence that will typically show how or why phenomena, concepts or principles relate to given situations.

*Demonstrate comprehensive understanding* requires the student to provide evidence that will typically show insight into how or why phenomena, concepts or principles are connected in the context of given situations.